

Exotic Pest Fact Sheet 11

Tomato Yellow Leaf Curl Virus (TYLCV) Genus: Begomovirus Tomato Infectious Chlorosis Virus (TICV) Genus: Crinivirus

What is it?

Tomato Yellow Leaf Curl Virus (TYLCV) and Tomato Infectious Chlorosis Virus (TICV) are both transmitted by whiteflies. TYLCV is transmitted by *Bemisia tabaci* and affects tomatoes, capsicums and beans. TICV is transmitted by *B. tabaci*, *Trialeurodes vaporariorum* and *T. abutilonea* and affects tomatoes, lettuce and artichokes.

What does it look like?

Infection by TYLCV and TICV both produce similar symptoms. Typical symptoms of TYLCV infection include curling and yellowing of young leaves, upward and inward rolling of the leaf margins, interveinal yellowing of leaflets and severe stunting. Early infection affects plant vigour and reduces fruit set considerably, especially when infection takes place before the flowering stage. There are no noticeable symptoms on fruits from infected plants.

Symptoms of TICV infection are yellowing of leaves, stunting, and dieback.

Why is it important?

Tomatoes are the primary host of TYLCV. Early infection affects plant vigour and fruit fails to develop, reducing the number of fruit produced and affecting yield causing heavy economic losses.

How does it spread?

TYLCV and TICV are spread by whitefly vector transmission. The viruses can spread over long distances by the movement of infected plants or non-host plants carrying whiteflies. Seed transmission is possible with particular strains of the TYLCV virus.

Where is it present?

TYLCV originated in the Middle East and is now present throughout most of Asia, Middle East, Northern and Western Africa, Southern Europe and Mediterranean, North, Central and South America, and the Caribbean. In the Pacific it is present in French Polynesia, New Caledonia, and Australia (Northern Territories, Queensland).

TICV is present in the USA, Mexico, Japan, Taiwan, and Indonesia and countries bordering the Mediterranean including Greece, Bulgaria, Italy, France, Jordan and Tunisia.

How can I protect my industry?

Check your production site frequently for the presence of new diseases and unusual symptoms. Make sure you are familiar with common pests and diseases of your industry so you can recognise something different.



Fig 1: Symptoms of TYLCV on greenhouse tomato plants. Image: Don Ferrin, Louisiana State University Agricultural Center, Bugwood.org



Fig 2: Symptoms of TYLCV on tomato plant. Image: Florida Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Bugwood.org



Fig 3: TYLCV-infected tomato plant. Image: National Plant Protection Organisation, The Netherlands, Bugwood.org